

ABSTRACT OF THE DISCLOSURE

Methods and apparatuses are disclosed for managing a memory. In some embodiments, the methods may include issuing a data request to remove data from memory, determining whether the data is being removed from a cache line in a cache memory, determining whether the data being removed is stack data, and varying the memory management policies if stack data is being removed that corresponds to a predetermined word in the cache line. If the predetermined word in the cache line is the first word, then the cache line may be invalidated regardless of its dirty state and queued for replacement. In this manner, invalidated cache lines may be replaced by incoming data instead of transferring them to the main memory unnecessarily and removing other more valuable data from the cache. Thus, number of memory accesses may be reduced and overall power consumption may be reduced.